

11 OCT 2005

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF TRANSMITTAL  
OF COPIES OF TRANSLATION  
OF THE INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT

(PCT Rule 72.2)

To:

NAKANO, Minoru  
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Osaka-shi, Osaka 554-0024  
JAPON



Date of mailing (day/month/year) 27 January 2005 (27.01.2005)	
Applicant's or agent's file reference 103166-WO-00	IMPORTANT NOTIFICATION
International application No. PCT/JP2003/008624	International filing date (day/month/year) 07 July 2003 (07.07.2003)
Applicant SUMITOMO ELECTRIC INDUSTRIES, LTD. et al	

1. Transmittal of the translation to the applicant.

The International Bureau transmits herewith a copy of the English translation made by the International Bureau of the international preliminary examination report established by the International Preliminary Examining Authority.

2. Transmittal of the copy of the translation to the elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following elected Offices requiring such translation:

AZ, CA, CH, CN, CO, EP, GH, KG, KP, KR, MK, MZ, RO, RU, TM

The following elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, BA, BB, BG, BR, BY, BZ, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, ES, FI, GB, GD, GE, GM, HR, HU, ID, IL, IN, IS, KE, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MN, MW, MX, NI, NO, NZ, OA, OM, PG, PH, PL, PT, SC, SD, SE, SG, SK, SL, SY, TJ, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report.

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

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Translation

PATENT COOPERATION TREATY

PCT/JP2003/008624



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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 103166-WO-00	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/JP2003/008624	International filing date (day/month/year) 07 July 2003 (07.07.2003)	Priority date (day/month/year) 17 July 2002 (17.07.2002)
International Patent Classification (IPC) or national classification and IPC H01L 23/36, 23/373		
Applicant SUMITOMO ELECTRIC INDUSTRIES, LTD.		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 sheets, including this cover sheet.  
☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  
These annexes consist of a total of \_\_\_\_\_ sheets.

- This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☒ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 04 December 2003 (04.12.2003)	Date of completion of this report 26 May 2004 (26.05.2004)
Name and mailing address of the IPEA/IP	Authorized officer
Facsimile No.	Telephone No.

Form PCT/IPEA/409 (cover sheet) (July 1998)

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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.

PC/T/JP2003/008624

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

- ☒ the international application as originally filed
- ☐ the description: \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the claims: \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, as amended (together with any statement under Article 19  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the drawings: \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description: \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig. \_\_\_\_\_

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.

PCT/JP03/08624

## IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees the applicant has:

- ☐ restricted the claims.
- ☐ paid additional fees.
- ☐ paid additional fees under protest.
- ☐ neither restricted nor paid additional fees.

2. ☒ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.
- ☒ not complied with for the following reasons:

This examination finds that the groups of inventions described in 1-11 are linked only in the matter of being "a member for a semiconductor device having an alloy or a composite material as a base material, having a covering film comprising a hard carbon film formed on the surface of said base material to which at least one other semiconductor device is joined with resin."

However, because this matter is described in prior art documents [WO, 95/31006, A1 (SILICONIX INC.), WO, 96/02942, A1 (OLIN CORP.)], this cannot constitute a special technical feature.

There is no special technical feature among the inventions of claims 1-11 that are so linked as to form a single general inventive concept. Therefore, the groups of inventions set forth as claims 1-11 clearly do not satisfy the requirement for unity of invention.

Furthermore, this examination finds that there are three groups of inventions described that can be classified as claims 1-2, 7-11, 3-4 and 5-6 based on the specific aspect of the inventions described in the independent claims.

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- ☒ all parts.
- ☐ the parts relating to claims Nos. \_\_\_\_\_

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

JP03/08624

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	1-11	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-11	NO
Industrial applicability (IA)	Claims	1-11	YES
	Claims		NO

### 2. Citations and explanations

#### Claims 1, 2, and 11

Document 1: WO, 96/02942, A1 (OLIN CORPORATION), 01 February, 1996, claims 1, 12, 13, 16, 21, 22, page 7, line 16 to page 8, line 26; page 13, lines 15-24; page 15, lines 26-30; Figs. 2, 3

Document 2: WO, 95/31006, A1 (SILICONIX INC.), 16 November, 1995, page 5, lines 19-27, page 14, line 28 to page 19, line 14, claims 1, 7, 8

Documents 1 and 2 describe a member for a semiconductor device that is used for a heat releasing part, having an alloy or a composite material as a base material and having a covering film comprising a hard carbon film formed on the surface of said base material to which at least one other semiconductor device is joined with resin.

Document 3: JP, 10-284643, A (Sumitomo Electric Industries, Ltd.), 23 October, 1998, Par. Nos. [0001], [0027], [0029], [0030]

Document 3 describes a member for a semiconductor device that is used for a heat sink, having an alloy comprising W and/or Mo and Cu as a primary component or a composite material as a base material, and comprising 5-40 wt% Cu.

Making the member for a semiconductor device of the alloy or the composite material that constitutes the heat releasing part as described in documents 1 and 2 a member for a semiconductor device constituting the heat releasing part described in document 3 would be obvious to a party skilled in the art.

#### Claims 3, 4 and 11

Document 4: JP, 2000-297301, A (Sumitomo Electric Industries, Ltd.), 24 October, 2000, Par. Nos. [0001], [0027], [0038]; Fig. 1

Document 4 describes a member for a semiconductor device that is used for a heat releasing substrate, having an alloy comprising Al-SiC as a primary component or a composite material as a base material, and comprising 10-70 wt% SiC.

Making the member for a semiconductor device of the alloy or the composite material that constitutes a heat releasing part as described in documents 1 and 2 a member for a semiconductor device constituting a heat releasing part as described in document 4 would be obvious to a party skilled in the art.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

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**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of Box V.2:

**Claims 5, 6 and 11**

Newly discovered document 5 [WO, 00/76940, A (Sumitomo Electric Industries, Ltd.), 21 December, 2000; page 1, lines 4-5; page 13, line 15 to page 18, line 19; Fig. 1] describes a member for a semiconductor device that is used for a heat releasing substrate, having an alloy comprising Si-SiC as a primary component or a composite material as a base material, and comprising 10-35 wt% Si.

Making the member for a semiconductor device of the alloy or the composite material that constitutes the heat releasing part as described in documents 1 and 2 a member for a semiconductor device constituting a heat releasing part as described in newly discovered document 5 would be obvious to a party skilled in the art.

**Claims 7-10**

The matters described in claims 7-10 are all matters that are ordinarily considered in the technical field of members for semiconductors; thus the inventions of these claims do not appear to involve an inventive step over the inventions of documents 1-4 or newly discovered document 5.